**WHAT IS CLAIMED:**

1. A process for forming a continuous, unsupported, multilayer phase inversion microporous membrane having at least two layers, comprising:

operatively positioning at least one dope applying apparatus capable of applying at least two independent polymer dopes relative to a continuously moving nonporous support coating surface;

cooperatively applying the polymer dopes onto the continuously moving nonporous support coating surface so as to create a multilayer polymer dope coating on the nonporous support coating surface; and

subjecting the multilayer dope coating to contact with a phase inversion producing environment so as to form a wet multilayer phase inversion microporous membrane precursor, and then washing and drying this wet precursor structure to form the desired dry multilayer microporous membrane.

2. The process of claim 1 wherein the polymer dope comprises:

nylon.

3. The process of claim 1 wherein the polymer dope comprises:

polyvinylidene fluoride.

4. The process of claim 1 wherein the polymer dope comprises:

polyether sulfone.

5. The process of claim 1 further comprising:

operatively applying at least one additional independent polymer dope relative to the continuously moving nonporous support coating surface.

6. The process of claim 1, wherein the dope applying apparatus is filled and covered.

7. A multilayer, unsupported, membrane comprising:

a first layer having a symmetrically distributed first pore size; and

at least a second layer having a symmetrically distributed second pore size, the first and second layers being operatively connected with a distinct change in pore size at the interface thereof such that the multilayer membrane is continuous and does not include any support material.

8. The multilayer membrane of claim 7, wherein the first layer is formed from a first polymer dope for producing one pore size and the at least a second layer is formed from at least a second polymer dope for producing at least one different pore size.

9. The multilayer membrane of claim 7, wherein the polymer dope comprises:

nylon.

10. The multilayer membrane of claim 7, wherein the polymer dope comprises:

polyvinylidene fluoride.

11. The multilayer membrane of claim 7, wherein the polymer dope comprises:

polyether sulfone.

12. A two layer, unsupported, membrane comprising:

a first layer having a symmetrically distributed first pore size; and

a second layer having a symmetrically distributed second pore size, the first and second layers being operatively connected with a distinct change in pore size at the interface thereof such that the two layer membrane is continuous and does not include any support material.

13. A two layer, unsupported, membrane comprising:

a first layer having a symmetrically distributed first pore size; and

a second layer having a symmetrically distributed second pore size, the first and second layers being operatively connected such that the two layer membrane is continuous with some induced interlayer mixing and does not include any support material.